

No.

9900040



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

*Asgrow Seed Company LLC*

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLACEMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'AG3901'

*In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this fifth day of February, in the year of our Lord two thousand one.*

Attest:

*Alan K. Post*

Acting Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*[Signature]*

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

# APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)

Asgrow Seed Company LLC

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER

AGC39701

3. VARIETY NAME

AG3901

4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)

P.O. Box 7570  
4140 114th Street  
Des Moines, IA 50322

6. TELEPHONE (include area code)

515-331-7100

6. FAX (include area code)

515-331-7110

FOR OFFICIAL USE ONLY

VPPO NUMBER

9900040

DATE

10/30/98

7. GENUS AND SPECIES NAME

Glycine max

8. FAMILY NAME (Botanical)

Leguminosae

9. CROP KIND NAME (Common name)

Soybean

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name)

11. IF INCORPORATED, GIVE STATE OF INCORPORATION

Corporation

12. DATE OF INCORPORATION

March 22, 1968

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

Donald Steffen  
Asgrow Seed Company LLC  
P.O. Box 7570  
4140 114th Street  
Des Moines, IA 50322

Trent Leopold  
Asgrow Seed Company  
P.O. Box 7570  
4140 114th Street  
Des Moines, IA 50322

14. TELEPHONE (include area code)

515-331-7146  
515-331-7148

15. FAX (include area code)

515-331-7110  
515-331-7130

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

- a. ☒ Exhibit A. Origin and Breeding History of the Variety  
b. ☒ Exhibit B. Statement of Distinctness  
c. ☒ Exhibit C. Objective Description of the Variety  
d. ☒ Exhibit D. Additional Description of the Variety (Optional)  
e. ☒ Exhibit E. Statement of the Basis of the Applicant's Ownership  
f. ☒ Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in an approved public repository)  
g. ☒ Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to FPVO)

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(e) of the Plant Variety Protection Act)  
☐ YES (If "yes," answer items 18 and 19 below) ☒ NO (If "no," go to item 20)

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?  
☐ YES ☐ NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?  
☒ YES (If "yes," give names of countries and dates) ☐ NO

USA November 1998

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT (Owner(s))

NAME (Please print or type)

Donald Steffen

CAPACITY OR TITLE

Manager, Reg. Affairs

DATE

10/19/98

SIGNATURE OF APPLICANT (Owner(s))

NAME (Please print or type)

Trent Leopold

CAPACITY OR TITLE

Soybean Product Manager

DATE

10/19/98

ASGROW SEED COMPANY  
PVP APPLICATION AG3901

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF AG3901

- 1993 Cross RP931224C94-39136 was made near Isabela, Puerto Rico.  
Parentage: A4595\*A4009\*A3237\*A4138\*40-3-2
- 1993-4 F1 & F2 generations were grown near Isabela, Puerto Rico and advanced using modified pedigree selection.
- 1994 F3 Bulk Populations were grown in Stonington, Illinois and single plants pulled.
- 1994-5 F3 derived F4 plants were grown in Rancagua, Chile in progeny rows, and row RP931224C94-39136 was selected based on agronomic characteristics.
- 1995 F3:5 RP931224C94-39136 was entered in a yield test at 4 locations in the upper Midwest, where it placed 3<sup>rd</sup> of 42 entries.
- 1996 F3:6 RP931224C94-39136 was entered in a yield test at 12 locations in the upper Midwest, where it placed 2<sup>nd</sup> of 60 entries.

AG3901 is uniform and stable within commercially acceptable limits based on trial observations since 1996. As with any other soybean variety, variants can occur for almost any characteristic during the course of repeated sexual reproduction.

ASGROW SEED COMPANY  
PVP APPLICATION AG3901

EXHIBIT B

Novelty Statement Concerning AG3901 Soybean

To our knowledge, the soybean varieties that closely resemble AG3901 are A3237, A4138, A3559:

1. Flower color	AG3901	- White
	A3237	- Purple
	A4138	- White
	A3559	- Purple
2. RR <sup>TM</sup> gene (Tolerance to glyphosate herbicide)	AG3901	- Present
	A3237	- Absent
	A4138	- Absent
	A3559	- Absent
3. Soybean cyst nematode resistance (Race 3 and Race 14)	AG3901	- Mod.Res.-3, Susc.-14
	A3237	- Susceptible
	A4138	- Res.-3, Mod.Res.-14
	A3559	- Res.-3, Mod.Res.-14
4. PRR gene (Tolerance to Phytophthora Root Rot)	AG3901	- rps (susceptible)
	A3237	- Rps1k
	A4138	- rps (susceptible)
	A3559	- Rps1c

U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 LIVESTOCK, MEAT, GRAIN & SEED DIVISION  
 PLANT VARIETY PROTECTION OFFICE  
 BELTSVILLE, MARYLAND 20705

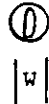
EXHIBIT C  
 (Soybean)

OBJECTIVE DESCRIPTION OF VARIETY  
 SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Asgrow Seed Company LLC	TEMPORARY DESIGNATION AGC39701	VARIETY NAME AG3901
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) P.O. Box 7570 4140 114th Street Des Moines, IA 50322		FOR OFFICIAL USE ONLY PVPO NUMBER 9900040

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,   ). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

## 1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)  
 3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)  
 4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

## ★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify) \_\_\_\_\_

## 3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

## ★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

## ★ 5. HILUM COLOR: (Mature Seed)

1 = Buff

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

6 = Black

7 = Other (Specify) \_\_\_\_\_

## ★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

## ★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

## ★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP<sup>1a</sup>)2 = Type B (SP<sup>1b</sup>)

## ★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

## ★ 10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify) \_\_\_\_\_

11. LEAFLET SIZE:

1 = Small ('Amsoy 71'; 'A5312')  
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

1 = Light Green ('Weber'; 'York')  
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

1 = White      2 = Purple      3 = White with purple throat

★ 14. POD COLOR:

1 = Tan      2 = Brown      3 = Black

★ 15. PLANT PUBESCENCE COLOR:

1 = Gray      2 = Brown (Tawny)

16. PLANT TYPES:

1 = Slender ('Essex'; 'Amsoy 71')  
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

1 = Determinate ('Gnome'; 'Braxton')  
3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

2 = Semi-Determinate ('Will')

★ 18. MATURITY GROUP:

1 = 000      2 = 00      3 = 0      4 = I      5 = II      6 = III      7 = IV      8 = V  
9 = VI      10 = VII      11 = VIII      12 = IX      13 = X

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★  Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★  Bacterial Blight (*Pseudomonas glycinea*)

★  Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★  Brown Spot (*Septoria glycines*)

Frogeye Leaf Spot (*Cercospora sojae*)

★  Race 1     Race 2     Race 3     Race 4     Race 5     Other (Specify)

Target Spot (*Corynespora cassicola*)

Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)

Powdery Mildew (*Microsphaera diffusa*)

★  Brown Stem Rot (*Cephalosporium gregatum*)

Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var; *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 1 Race 1 ☐ 1 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ 1 Race 5 ☐ 1 Race 6 ☐ 1 Race 7
- ☐ 1 Race 8 ☐ 1 Race 9 ☐ Other (Specify) \_\_\_\_\_

VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 0 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 2 Race 3 ☐ 0 Race 4 ☐ 1 Other (Specify) Race 14
- ☐ 0 Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): \_\_\_\_\_

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 1 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) \_\_\_\_\_

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) \_\_\_\_\_

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape		Seed Coat Luster	
Leaf Shape		Seed Size	
Leaf Color		Seed Shape	
Leaf Size		Seedling Pigmentation	

## 23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

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VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
Submitted AG3901	138	2.1	94			41.6	21.4	15	
A3904 Name of Similar Variety	139	2.2	99			40.3	20.0	13	

## PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A<sub>2</sub> in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.



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ASGROW SEED COMPANY  
PVP APPLICATION AG3901

EXHIBIT D

Additional Description of AG3901 Soybean

AG3901 is a late maturity group III variety with resistance to Roundup<sup>™</sup> herbicide . It has very high yield potential. It has superior yields to lines of similar maturity and has excellent agronomic characteristics. In tests, it has beat Asgrow A3834 by 103 % overall, winning at 8 of 12 locations. AG3901 would be grown in the late Group III growing areas of the corn belt, including Iowa, Illinois, Missouri, Indiana, and Nebraska. It is average in attractiveness.

ASGROW SEED COMPANY  
PVP APPLICATION AG3901

EXHIBIT E

Statement of Basis of Applicant Ownership

AG3901 was originated and developed by Dr. Craig K. Moots, an Asgrow soybean breeder. By agreement with Asgrow Seed Company, all rights to any invention, discovery or development made by employees are assigned to the company. No rights of such invention, discovery or development are returned to the employee.

ASGROW SEED COMPANY

NEW YORK, N.Y.

1988